

REMARKS

Claims 30-39 are pending in this application. By this Amendment, claims 31-39 are amended.

I. Formal Matters

The Office Action objects to claims 31-33, 35 and 37-39 because they include improper dependencies. By this Amendment, claims 31-39 are all amended to correct their dependency.

The Office Action also rejects claims 34-39 under 35 U.S.C. §112, second paragraph, for an alleged lack of antecedent basis for certain claim terms. In part, correcting the dependency of these claims has corrected the antecedent basis issue. In addition, the claims 34-39 now recite a reinforcing plate in all relevant locations. As a result, it is believed that the amended claims are proper under 35 U.S.C. §112, second paragraph. Withdrawal of the rejection is respectfully requested.

The Office Action also objects to the specification and rejects claims 30-39 under 35 U.S.C. §112, first paragraph, because certain features in the claims are allegedly unsupported by the specification. Specifically, the Office Action objects to the claim term “incompressible material” in claim 30, and the claim term “inelastic material” in claim 34. The Office Action also objects to claims 31 and 37 because they recite that a portion of the destructible layer at the clinch connection is broken off and driven into the recess in the reinforcing plate.

The originally filed application at page 6, lines 1-9, indicates that the destructible material layer can be formed of paper, a plastic film, or a metallic foil. Because both paper and metallic foil are substantially inelastic and incompressible, it is respectfully submitted that the originally filed specification provides support for these claim features.

In addition, the originally filed application between page 9, line 23 and page 10, line 1 recites that during an assembly step, a truncated connecting body

18 is driven with a piece 19 of the destructible material layer 15 into the material of the reinforcing plate 13. This description is given with respect to the illustration in Fig. 3. In Fig. 3, reference numeral 19 indicates a portion of the destructible layer 15 that has been broken off and driven into a recess in the reinforcing plate. This process is also illustrated in Figs. 5a-5c of the application. Accordingly, it is respectfully submitted that the application provides support for the features appearing in claims 31 and 37.

In view of all the foregoing, withdrawal of the objections to the specification, and withdrawal of the rejection of claims 30-39 under §112, first paragraph, is respectfully requested.

II. Prior Art Rejections

A. Claims 30-33

The Office Action rejects claims 30-33 under 35 U.S.C. §103(a) over U.S. Patent No. 2,845,320 to Saunders et al. (hereinafter "Saunders"), in view of U.S. Patent No. 6,036,293 to Anell et al. (hereinafter "Anell"), and further in view of U.S. Patent No. 6,471,313 to Ueda et al. (hereinafter "Ueda") and U.S. Patent No. 4,102,721 to Carey Jr. (hereinafter "Carey"). The rejection is respectfully traversed.

The Saunders reference discloses a refrigerator cabinet where a door of the refrigerator is attached to a body of the refrigerator by a hinge connection. Saunders discloses that a hinge bracket 36 can be attached to the front wall 13 of the refrigerator using fasteners 37, as shown in Figure 4. Saunders discloses that the fasteners 37 would pass through the hinge bracket 36, through the front wall 13 of the refrigerator, and into a reinforcing plate 21 located behind the front wall 13. Saunders fails to disclose or suggest that any type of film or material layer would be located between the front wall 13 of the refrigerator and the reinforcing plate 21.

Anell discloses a refrigerator cabinet where a plurality of reinforcing members 64, 65, 68, 96 are positioned behind the front wall 32, 33, 23 of a refrigerator body 5. Anell discloses that the front wall of the refrigerator body can be attached to the reinforcing members by crimping or clinching. However, like Saunders, Anell also fails to disclose or suggest that any type of film or material layer would be positioned between the front wall of the cabinet and the reinforcing elements.

Ueda discloses a cabinet which can be used as part of a refrigerator. As shown in Figures 20-24 of Ueda, a cover plate 17 is mounted on the corners of rectangular openings on the front face of the cabinet. Ueda teaches a structure which uses a reinforcing 14 plate that is attached to the front wall 11 and rear wall 12 via fasteners 15 that pass through holes 55 in the reinforcing plate 14 and holes 56 in the front wall 11 and rear wall 12. Ueda then covers the reinforcing plate 14 with the cover plate 17. Projections 22 on the rear face of the cover plate 17 are inserted into a large aperture 21 in the reinforcing plate 14 to mount the cover plate 17 in the corner of the opening.

Ueda teaches that one can place a piece of sponge rubber 51 between the walls 11, 12 of the cabinet and the reinforcing plate 14. The sponge rubber element is intended to seal any apertures in the structure. When the cover plate 17 is mounted on the structure, the protrusions 22 on the rear of the cover plate 17 cause deformation of the sponge rubber element 51. Because the sponge rubber element 51 is highly elastic, as shown in Figure 22, the sponge rubber element 51 is not pierced by the protrusions 22 on the cover plate 17. Instead, the elastic sponge rubber element 51 deforms inward to accommodate the protrusions 22.

Ueda teaches that it is necessary for the sponge rubber element 51 to be highly elastic so that the protrusions 22 on the cover plate 17 merely cause the sponge rubber element to elastically deform, rather than to break. This allows the Ueda structure to be fully assembled before foam insulation is injected into

the structure. The fact that the highly elastic sponge rubber element does not break ensures that none of the foam insulation can leak out of the interior of the structure.

The Carey reference discloses a pressure-sensitive adhesive tape that can be applied to the inside of walls of a hollow body to cover apertures formed in the walls. Once the tape has been placed over the apertures, a foam insulation can be filled into an interior of the hollow body. The tape covering the apertures prevents any foam from escaping out of the apertures.

The Carey tape is formed from a fiber web that is unified with a pressure sensitive adhesive, the adhesive forming an adhesive skin layer on one side of the web to provide a tacky surface that will adhere to walls of a hollow body. The Carey tape is somewhat elastic. Carey indicates that when foam on the inside of the hollow body presses against the tape, the tape will deform somewhat, but not enough to protrude out of the aperture the tape is covering.

Independent claim 30 recites a foam-filled hollow body which includes an inner wall, an outer wall, a reinforcing plate positioned on an inner side of the outer wall and a destructible layer positioned between the reinforcing plate and the outer wall. Claim 30 recites that the reinforcing plate is coupled to the outer wall by a clinch connection, and that the reinforcing plate has a hole therethrough, the hole in the reinforcing plate being aligned within the opening in the outer wall. Claim 30 further recites that the destructible layer is positioned so as to cover the hole in the reinforcing plate and the opening in the outer wall. Further, claim 30 recites that the destructible layer is formed of a substantially incompressible material. Finally, claim 30 recites that foam insulation is located between the inner wall and the outer wall, wherein the destructible layer prevents the foam insulation from escaping from the opening in the outer wall.

As noted above, neither Saunders nor Anell disclose or suggest putting any type of film or material layer between the outer wall of a refrigerator body and a reinforcing plate located behind the outer wall. The Office Action asserts that

Ueda discloses this feature, and that one of ordinary skill in the art would have been motivated to add the Ueda material layer to the Saunders and/or Anell refrigerators.

As explained above, Ueda teaches the use of a sponge rubber element located underneath a cosmetic cover plate. Ueda teaches that the sponge rubber element should be highly elastic such that when projections on the rear of the cover plate extend down into an aperture between the inner and outer walls of the Ueda structure, the projections cause the sponge rubber element to elastically deform, rather than to break. This allows the Ueda structure to be fully assembled before foam insulation is injected into the structure. The fact that the highly elastic sponge rubber element does not break ensures that none of the foam insulation can leak from the interior of the structure.

The Office Action appears to suggest that one of ordinary skill in the art, having decided to add a material layer to the Saunders or Anell refrigerators based on the teachings of Ueda, would then have been further motivated to replace Ueda's sponge rubber material layer with Carey's adhesive tape. However, the Office Action does not identify any motivation for making such a substitution.

It is respectfully submitted that that there is no proper motivation for substituting Carey's adhesive for Ueda's sponge rubber material layer. In fact, it is respectfully submitted that Ueda teaches against making such a substitution.

As noted above, Ueda teaches that the material layer positioned between the walls 11/12 of the hollow body and the reinforcing plate 14 should be highly elastic so that when the cover plate 18 is mounted on the structure, the projections 22 on the back of the mounting plate do not pierce through the material layer. Ueda specifically discloses the use of sponge rubber for this purpose, because sponge rubber provide sufficient elasticity. If a different and less elastic material were used, the projections 22 on the rear of the cover plate

14 would pierce the material, and this would allow foam to escape from within the hollow body.

The adhesive tape disclosed in Carey does not provide anywhere near the elasticity required to operate properly in the Ueda structure. If the Carey tape were used in place of sponge rubber in the Ueda structure, the projections 22 on the rear of the cover plate 14 would pierce the tape, and allow foam to escape from within the hollow body. Thus, making the substitution suggested in the Office Action runs against the teachings of Ueda, and using the Carey tape in place of a layer of sponge rubber would destroy the functionality of the Ueda device. Given the above facts, it is respectfully submitted that the only motivation for replacing Ueda's layer of sponge rubber with the Carey tape comes from the impermissible use of hindsight, in view of Applicant's own invention.

In view of the foregoing, it is respectfully submitted that the combination of references is improper. Accordingly, withdrawal of the rejection of claims 30-33 on these grounds alone is respectfully requested.

It is respectfully submitted that the dependent claims are also allowable over the references of record for the additional features which they recite. For instance, claim 31 recites that a clinch connection attaches the outer wall to the reinforcing plate. This claim further recites that a portion of the destructible layer at the clinch connection is broken off and driven into a recess in the reinforcing plate. None of the references of record disclose or suggest this type of an arrangement. Withdrawal of the rejection of the dependent claims is also requested based on these additional grounds.

B. Claims 34-39

The Office Action rejects claims 34-39 under 35 U.S.C. §103(a) over Saunders, in view of Ueda, and further in view of Carey. The rejection is respectfully traversed.

Claim 34 is also directed to a foam-filled hollow body. Claim 34 recites

an inner wall and an outer wall, the outer wall having an opening therethrough. Claim 34 also recites a reinforcing plate positioned on an inner side of the outer wall and coupled to the outer wall by a mechanical connection, the reinforcing plate having a threaded hole therethrough, the threaded hole in the reinforcing plate being aligned with the opening in the outer wall. Claim 34 also recites a destructible layer positioned between the reinforcing plate and the outer wall so as to cover the hole in the reinforcing plate and the opening in the outer wall, the destructible layer being formed of a substantially inelastic material. Finally, claim 34 recites foam insulation located between the inner wall and the outer wall, wherein the destructible layer prevents the foam insulation from escaping from the opening in the outer wall.

As noted above, one of ordinary skill in the art would not have had any motivation to replace Ueda's sponge rubber layer with the Carey tape. Thus, for all the reasons given above, it is respectfully submitted that this combination of references is also improper. Withdrawal of the rejection of claims 34-39 on these grounds alone is respectfully requested.

C. Claims 37 and 39

Although it is not clear from the Office Action, Applicant believes that the Examiner intended to reject claims 37 and 39 under 35 U.S.C. §103(a) over Saunders, in view of Anell, and further in view of Ueda and Carey. The rejection is respectfully traversed.

As noted above, one of ordinary skill in the art would not have had any motivation to replace Ueda's sponge rubber layer with the Carey tape. Thus, for all the reasons given above, it is respectfully submitted that this combination of references is also improper. Withdrawal of the rejection of claims 37 and 39 on these grounds alone is respectfully requested.

In addition, claim 37 recites that a clinch connection attaches the outer wall to the reinforcing plate. This claim further recites that a portion of the

destructible layer at the clinch connection is broken off and driven into a recess in the reinforcing plate. None of the references of record disclose or suggest this type of an arrangement. Withdrawal of the rejection of the claims 37 and 38 is also requested based on these additional grounds.

III. Conclusion

In view of the foregoing, entry of the present Amendment and allowance of claims 30-39 are respectfully requested. If the Examiner has any questions regarding the Amendment, the Examiner is requested to contact the undersigned at the telephone number listed below. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

/James E. Howard/

James E. Howard

Registration No. 39,715

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BSH Home Appliances Corporation
100 Bosch Blvd.
New Bern, NC 28562
Phone: 252-639-7644
Fax: 714-845-2807
james.howard@bshg.com